



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,833	12/17/2003	Eun-Soo Lee	25611-000074/US	4825
30593 7590 03/16/2007 HARNESSE, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			EXAMINER HOLLINGTON, JERMELE M	
			ART UNIT	PAPER NUMBER
			2829	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/16/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/736,833

Applicant(s)

LEE, EUN-SOO

Examiner

Jermele M. Hollington

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 3-11 and 15-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claim 12 is objected to because of the following informalities: the limitation "the array of detecting switches" is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2 and 12-14 are rejected under 35 U.S.C. 102(a) as being anticipated by Nemoto et al (20020036161).

Regarding claim 1, Nemoto et al disclose [see Figs. 4-6 and 11-13] a tray transfer apparatus comprising: a transfer plate (test tray TST), the transfer plate (TST) including a plurality of tray holders (carrier compartment 14) arranged and configured for the selective support and release of a tray (IC carrier 16 in Fig. 6), the tray (16) including an array of pockets (IC pocket 19 in Fig. 6) for receiving semiconductor devices (IC); inherently a detecting substrate [not numbered see Note below] including an array of detecting means (IC detecting sensors 500), the array of detecting means (500) arranged and configured to detect the presence of more than two semiconductor devices (IC) in one of the pockets (19) of a supported tray (16); wiring means (not shown) connecting the detecting means (500) to an input/output terminal

Art Unit: 2829

(loader section 300 in Fig. 4); and driving means (transfer means 304 of Fig. 5) arranged and configured for controlled vertical and horizontal movement of the transfer plate (TST).

[Note: Although the prior art does not specifically disclose the claimed "a detecting substrate", this feature is seen to be an inherent teaching of that device since detecting sensors 500 is disclosed and it is apparent that some type of substrate must be presented for the sensors to be hold between unloader section 400 and the load section 300 to function as intended.]

Regarding claim 2, Nemoto et al disclose the detecting means (500) are detecting switches.

Regarding claim 12, Nemoto et al disclose [see Figs 4-8] an automatic test handler comprising: a plurality of tray stockers (IC storage rack 201-202) arranged and configured for receiving and positioning trays (IC carrier 16), the trays (16) including an array of pockets (IC pockets 19) with each pocket being sized and configured to receive and hold a semiconductor device (IC); a tray transfer unit (loading section 300 and unloading section 400) including a transfer plate (test tray TST) arranged and configured to transfer and position a supported tray (16), inherently a detecting substrate [not numbered see Note below] including an array of detecting means (IC detecting sensors 500), an array of detecting switches (IC detecting sensor 500 in Figs. 11-12) arranged and configured to indicate the presence of more than two semiconductor devices (IC) in a pocket (19) of the supported tray (16), a detecting substrate (position means 305) and a driving means (not shown but it is inherent since some type of device is used to load and unload the tray into different apartments of the test apparatus); a tester (test chamber 102) for performing electrical tests on the semiconductor devices (IC); a first chamber (temperature chamber 101) for establishing a first temperature condition in the semiconductor devices (IC) under which the semiconductor devices (IC) will be tested, a second chamber (stress

Art Unit: 2829

removing chamber 103) for restoring the tested semiconductor device (IC) to the normal temperature; a pick and place device (transfer means 304 or 404) arranged and configured for removing the semiconductor devices (IC) from the pockets (19) and for placing the semiconductor devices (IC) into the pockets (19); and a controller (host computer 2 in Fig. 1) for controlling the stockers (201-202), the tester (102), the tray transfer unit (300 and 400), the pick and place device (304 and 404) and the first and second chambers (101 and 103).

[Note: Although the prior art does not specifically disclose the claimed "a detecting substrate", this feature is seen to be an inherent teaching of that device since detecting sensors 500 is disclosed and it is apparent that some type of substrate must be presented for the sensors to be hold between unloader section 400 and the load section 300 to function as intended.]

Regarding claim 13, Nemoto et al disclose the controller (2) is incorporated within the tray transfer unit (300 and 400).

Regarding claim 14, Nemoto et al disclose the controller (2) generates a test stop signal corresponding to the activation status of the detecting switches (500).

### ***Conclusion***

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

5. Claims 3-11 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2829

6. The following is a statement of reasons for the indication of allowable subject matter: regarding claim 3, the reason for the allowance of the claim is due to the fact a detecting switches are mechanical contact type push-button switches.

Regarding claim 4, the reason for the allowance of the claim is due to the fact the detecting switches extend through an installation holes and below a plane defined by the bottom surface of a transfer plate. Since claims 5-6 depend from claim 4, they also have allowable subject matter.

Regarding claim 7, the reason for the allowance of the claim is due to the fact the transfer plate includes a rotatable member arranged at a periphery of the transfer plate and extending above and below the transfer plate; a catch finger connected to a lower extension of the rotatable member.

Regarding claim 8, the reason for the allowance of the claim is due to the fact a control substrate for generating a control signal, the control signal corresponding to an activation status of the detecting switches. Since claims 9-11 depend from claim 8, they also have allowable subject matter.

Regarding claim 15, the reason for the allowance of the claim is due to the fact an alarm means for generating an alarm signal corresponding to the activation status of the detecting switches.

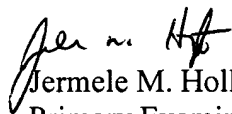
Regarding claim 16, the reason for the allowance of the claim is due to the fact a control substrate arranged and configured for providing power to the detecting substrate and for generating flash signals according to the activation status of the detecting switches.

Art Unit: 2829

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (571) 272-1960. The examiner can normally be reached on M-F (9:00-4:00 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jermele M. Hollington  
Primary Examiner  
Art Unit 2829

JMH  
March 14, 2007